Financing Transportation Infrastructure: New Approaches to User Fee Finance

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Surface Transportation Bill Expired Sept 30, 2009

• Has been extended several times; latest extension last week as part of the “jobs bill” which was also short term

• Overshadowed by recession, stimulus package, health care debate, climate change bills

• The most critical issue is that the Federal transportation revenue stream is failing

• Transportation community – state DOTs, MPOs, shippers, carriers – all agree we are in crisis and that fundamental change should be on the table
The National Transportation Program is in Fiscal Crisis

• Unable to fund standard maintenance much less system expansion or environmental improvements

• For first time since 1930 less than half of state funding is from user fees

• States are borrowing to pay for maintenance and operations

• Federal Highway Trust Fund is operating at a deficit

• Many in Congress and Administration oppose increases in motor fuel taxes
Federal Highway Trust Fund Rapidly Falling Into Deficit

Source: GAO analysis of data provided in the President's Budget and by CBO.
Issues Facing Congress

- Motor fuel taxes as user fees have worked for almost a century but are failing
- General fund support for transportation is the fall back but it is far from ideal
- Technology now available for more modern options
- None of the policy options for dealing with this crisis are ideal
- VMT options seem to be most promising direction
  - Transition is critical question
Gasoline Taxes Were Invented Before 1920 but Have Always Been “Second Best”

- State highways were bankrupting states in 1915–25 period; fastest growth of autos and roads ever . . . led to innovation of “user fees”

- Tolls – direct user fees – were most desirable in principle

- Motor fuel taxes and various “car taxes” adopted as “second best” but practical solution
Motor Fuel Taxes Have Worked Well for a Century

- Motor fuel taxes were enormously popular in early years
- Supported by wide variety of constituencies
- Federal motor fuel tax in 1930s
- Adopted in every state by 1940
- Fundamental finance mechanism for interstate system in 1950s
User Fee Finance Is Unique to Transportation and America

• User fees in U.S. became associated with “trust funds” and non-diversion constitutional provisions in many states

• Elastic definition of user fees allowed expansion to transit and to environmental mitigation in many states

• “Hypothecation” not common worldwide
Motor Fuel Taxes Less Functional Now

Viability waning because

- Opposition related to high price of fuel; federal gas tax not raised since Reagan presidency
- Inherent contradiction for government
- Dramatic growth sought in fuel efficiency
- Ultimate replacement of petroleum based fuels for GHG policy reasons
None of the Major Policy Options Is Ideal

• Renew and rejuvenate user fees
  – Raise gas tax in short run
  – Shift to tolls, or direct VMT fees in longer run

• Revert to General Fund financing

• Borrow – coupled with a plan for General Fund or user fee as basis for repayment over time
Options Have Been Considered by Three Commissions

Conclusions of All Three Groups Were Remarkably Similar

• Raise the fuel taxes while fuel prices are high?
  Not politically feasible

• General fund financing? Sales tax measures in many states?
  Not equitable

• Increase borrowing in the short term?
  Not really new revenue; raises total cost

• Rejuvenate user financing using new technology and more direct charges?
  Electronic tolls and VMT fees?
What are “Direct VMT Fees?”

- Motorist pays a bill per mile of travel on highways.
- In simplest form, the fee is a flat fee but it could vary by:
  - Time of day
  - Class of road
  - Type of vehicle
- Bill sent monthly like phone bill or
  - Pay by debit card (prepaid, privacy protected)
  - Billed directly to credit card
Most Transportation Experts Agree Direct VMT Charges Are Most Promising Direction

- Will continue to produce revenue when vehicles are no longer powered by petroleum fuels
- Come closer to the goals for road user fees that existed even in 1920 – more direct than fuel taxes
- Technology is advancing and in use in several countries in Europe; four major tests already done in U.S. – e.g., “pay at pump” in Oregon
- Provide policy flexibility – can vary fees by type of vehicle, type of road, hour of day
Forecasts Suggest VMT Growth Will Continue to Outpace Fuel Consumption in Coming Decades

Index (1980 = 100%)

VMT (FHWA)

VMT (EIA)

Fuel consumption

Actual

Forecast

A Revenue-Neutral Switch to VMT Fees in 2015 Should Produce Much Higher Revenue by 2030

At least revenue in 2009 $ Billions

VMT revenues (flat fee)

Motor fuel tax revenue

At least 20% more revenue by 2030
Transition Is a Critical Question

- Direct charging may need to be phased into new vehicles over time
- We may need time for political and public acceptance to grow
- There are privacy concerns versus ability to audit
- Gas tax okay in short run if Congress agrees to raise it – even if a transition to new system is planned
In Principle, Direct Charging Mechanism is Flexible and Very Promising

• It could, for example, allow for many commercial options to be added to the system: e.g. “Pay as You Drive” (PAYD) Automobile Insurance

• It could replace parking meters as a means of charging for curb parking – and eliminate parking “tickets”

• It could be extended to commercial parking facilities

• Income from commercial applications could offset costs of installation
RAND Investigated Short-term Options; Now Looking at Ways of Planning Test and Transition

• “Tollcollect” is being used in half a dozen European countries and elsewhere to charge trucks . . . the concept is NOT untested

• Transition to the scale of the US national transportation system is challenging: hundreds of millions of users
Recommendation for Next Federal Transportation Reauthorization Bill

• Trials on a much larger scale than have yet been done

• Two or three trials at scale of entire states or metropolitan areas; private sector participation; millions of users rather than thousands
  – Perhaps voluntary
  – Perhaps alternative fueled vehicles
  – Perhaps trucks first

• Cost estimated to be $250 million to one billion; five years or more

• Careful technical AND political evaluation

• Enormous risks of failure without national trials

• Need for short term transition funding; fuel tax increase or proceeds of “cap and trade” program, for example
INFRASTRUCTURE, SAFETY, AND ENVIRONMENT
Truck toll collection in Germany

Automatic log-on

1. Install On-Board Unit
2. Enter vehicle data
3. Position detected via GPS
4. On-Board Unit detects toll road
5. Enforcement (stationary/mobile)
6. On-Board Unit calculates toll charges
7. Toll is sent via mobile radio (GSM) to the toll collection center
8. Toll collection center charges toll fees to the transport company’s account